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NOTICE OF ALLOWANCE AND FEE(S) DUE

1912 7590 05/08/2008
AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

EXAMINER	
MARTIN, PAUL C	
ART UNIT	PAPER NUMBER
1657	

DATE MAILED: 05/08/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/516,473	11/30/2004	Hendrik Sibolt Van Damme	6595947	5738

TITLE OF INVENTION: METHOD FOR HIGH THROUGHPUT CELL-BASED ASSAYS USING VERSATILE LIVING MICROARRAYS

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/08/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
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INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

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AMSTER, ROTHSTEIN & EBENSTEIN LLP
90 PARK AVENUE
NEW YORK, NY 10016

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

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Hendrik Sibolt Van Damme

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TITLE OF INVENTION: METHOD FOR HIGH THROUGHPUT CELL-BASED ASSAYS USING VERSATILE LIVING MICROARRAYS

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nonprovisional	NO	\$1440	\$300	\$0	\$1740	08/08/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
MARTIN, PAUL C	1657	435-004000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. **Change in Entity Status** (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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EXAMINER

MARTIN, PAUL C

ART UNIT

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Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 480 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 480 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/516,473

Examiner

PAUL C. MARTIN

Applicant(s)

VAN DAMME ET AL.

Art Unit

1657

- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendments of 02/04/08.
2. ☒ The allowed claim(s) is/are 1-22, 24, 26-31, 33 and 34.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 3/3/08
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Alan Miller on 05/06/08.

The provisional rejection of Claims 1-5 and 8-22 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 8-18 and 20-28 of copending Application No. 10/579,896 is hereby withdrawn.

The application has been amended as follows:

IN THE CLAIMS:

Cancel Claims 23 and 25.

1. A method for screening of ~~cellular~~ responses of viruses, cells or cellular components thereof comprising:

(a) providing cells or cellular components on the surface of a solid porous metallo-oxide substrate, wherein said cells or cellular components are mammalian cells,

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insect cells, yeast cells, fungal cells, plant cells, bacteria, viruses or components thereof, and wherein

(i) said solid porous substrate has oriented through-going channels;

(ii) said solid porous substrate retains said cells or cellular components on ~~its~~ the substrate surface, and wherein,

(iii) said solid porous substrate has immobilized therein, within the pores, an array of detector molecules, wherein said detector molecules are nucleic acids, peptides, proteins, antibodies, antibody fragments, enzyme substrates or specific dyes and wherein said detector molecules ~~are appropriate to detect cellular~~ responses to be assayed;

(b) delivering test compounds to positions on the substrate corresponding to the arrayed detector molecules on the surface of said solid porous substrate;

(c) incubating said test compounds with said viruses, cells or cellular components on the surface of the solid porous substrate, under conditions allowing the induction of ~~cellular~~ responses, wherein said ~~cellular~~ responses are chemically-induced or physiological events in said cells; production, secretion or surface exposure of a molecule of interest by said cells; membrane surface molecule activation; receptor activation; transmembrane ion transports; or transcriptional regulations;

(d) assaying said ~~cellular~~ responses, wherein ~~cellular~~ responses are detected using said detector molecules; and, identifying and characterizing the ~~cellular~~ responses induced by said test compounds.

3. The method according to claim 1, wherein said providing of viruses, cells or cellular components on the surface of a substrate is by a deposit directly on said substrate of an inoculum or a culture.

7. A method for screening of ~~cellular~~ responses of viruses, cells or cellular components comprising:

(a) providing cells or cellular components on the surface of a solid porous metallo-oxide substrate, wherein said cells or cellular components are mammalian cells, insect cells, yeast cells, fungal cells, plant cells, bacteria, viruses or components thereof, and wherein

(i) said solid porous substrate has oriented through-going channels, and

(ii) said solid porous substrate retains said cells or cellular components on its surface;

(b) incubating test compounds with said cells or cellular components on the surface of the solid porous substrate, under conditions allowing the induction of ~~cellular~~ responses, wherein said ~~cellular~~ responses are chemically-induced or physiological events in said cells; production, secretion or surface exposure of a molecule of interest by said cells; membrane surface molecule activation; receptor activation; transmembrane ion transports; or transcriptional regulations; and

(c) assaying said ~~cellular~~ responses by

(i) providing a detector molecule to the cells or cellular components;

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(ii) washing off excess of unincorporated detector molecule; and
(ii) detecting the presence or absence of a change in a detectable signal from the detector molecule, the presence of a change in detectable signal indicating a ~~cellular~~ response; wherein said detector molecule is a nucleic acid, peptide, protein, antibody, antibody fragment, enzyme substrate or specific dye.

8. The method according to claim 1, wherein said ~~cellular~~ response is assayed in whole broth or cell culture medium, in isolated cells such as pelleted cells, in supernatant of the cells or cellular components, or in lysate of the cells.

9. The method according to claim 1, wherein said delivery of test compounds is by a means selected ~~chosen~~ from the group ~~comprising~~ consisting of a delivery mask, a high precision x-y-z pipettor, inkjet printer, and manual handling.

15. The method according to claim 1, wherein said ~~cellular~~ responses are chosen from the group consisting of chemically induced or physiological events in the cell selected from the group consisting of lysis, apoptosis, growth inhibition, and growth promotion.

19. The method according to claim 1, wherein said solid porous substrate is an aluminum-oxide substrate.

22. The method according to claim 7, wherein said providing a detector molecule to the viruses, cells or cellular components occurs prior to delivering of test compound thereby providing pre-labeled viruses, cells or cellular components.

23. The method of claim 1, wherein an induced ~~cellular~~ response of a host cell is monitored.

24. The method of claim 1, wherein viruses, cells or cellular components are provided using on-chip recombination, transformation or viral introduction.

29. The method according to any of claims 26 to 28, wherein said array of detector molecules comprises a plurality of the same ~~equal~~ detector molecules or a plurality of different detector molecules.

30. The method according to claim 27 or 28, wherein said conditioning is chosen from the group ~~comprising~~ consisting of lyophilization and glycerol dissolution.

31. The method according to claim 1, wherein the viruses, cells or cellular components on the surface of the substrate comprise viruses, cells or cellular components with low spreading properties.

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33. The method according to claim 1, wherein said cells or cellular components are bacterial cells or components thereof.

Claims 1-22, 24, 26-31, 33 and 34 are allowed,

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAUL C. MARTIN whose telephone number is (571)272-3348. The examiner can normally be reached on M-F 8am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jon Weber can be reached on 571-272-0925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paul Martin
Examiner
Art Unit 1657

04/30/08

/Jon P Weber/
Supervisory Patent Examiner, Art Unit 1657